

Advanced Practice Nursing Workforce Survey 2014

(May 7, 2015)

About the Report

The Advanced Practice Nursing Workforce Survey and Report were directed by the Illinois Healthcare Action Coalition (IHAC). Members of the IHAC Survey Group included Michelle DiGiovanni (project manager), Kathleen Delaney, Ben Inventor, Deborah Karas, Michele Knappe and Susan Swart. Data analysis was performed by the Stevenson Center for Community and Economic Development at Illinois State University. Funding for this project was provided by the Robert Woods Johnson Foundation (RWJF) through the Future of Nursing State Implementation Program (SIP). The IDFPR/Illinois Center for Nursing, Illinois Organization of Nurse Leaders and ANA-IL were the nursing co-chairs of the RWJF SIP grant, and the Illinois Healthcare Action Coalition.

About the Data

Source data was obtained through an online survey targeting Advanced Practice Nurses in Illinois. The survey was available through Survey Monkey web services from the first of March 2014 through November 2014. The IHAC Survey Group carried out a multifaceted plan throughout the survey period to inform eligible participants. Efforts included email notifications, post card reminders, flyers at national meetings, and encouragement through professional organizations. The voluntary survey yielded 1,200 initial responses in the first month and 2,365 participants at conclusion. This represents more than 25% of the 9,000 plus APNs licensed to practice in Illinois.

The survey included 71 questions consistent with the HRSA designed National Sample Survey of Nurse Practitioners (NSSNP) with additions on language proficiency, billing practices, place-of-work zip codes, and professional collaboration. A full list of survey questions is provided in Appendix A. Information from the survey is categorized into five areas in this report: demographic information (including age), human capital (education, specialties, earnings), workplace characteristics (settings, services, collaboration), job satisfaction, and geographic information (across Illinois counties).

Executive Summary

The results from the 2015 Illinois HealthCare Action Coalition (IHAC) Advanced Practice Nursing workforce survey are reported in this document. The survey captured data on the demographics, education, state distribution, job activities and practice foci of Advanced Practice Nurses (APNs) in Illinois. The survey was conducted via an electronic platform and announced to Illinois APNs via email and a number of US mail reminders. Participation was voluntary, and 2,365 of the 9000 plus Illinois APNs completed the survey.

General overview: Data on the characteristics, supply, and distribution of APNs in the State of Illinois is essential to expanding access to care and planning for provisions of essential services, both in primary care and acute care as well as new team-based models of care. This report contains data on the demographics of Illinois' current APN workforce, the relative numbers of APNs in each age group, their cultural diversity, and educational preparation. The data quantifies the services APNs provide, how they bill for these services, and how they maintain their required collaborative agreements with their respective Illinois physician. Finally, the survey captures APN density throughout the state as well as their work with a broad range of populations.

Aging workforce: The report documents important information about the aging of the Illinois APN workforce, 41.5% of our sample are 55-65 years of age. As a comparison, the average age of this age cohort was 34% the 2012 National Sample Survey of Nurse Practitioners. ⁱ Interestingly, years of experience as an APN does not closely correlate with the age of the APN -- suggesting the diverse career trajectories of APNs.

Geographic distribution: The report maps out where APNs are practicing in the state; documenting that APNs generally practice in areas of high population density. While of great interest, it is difficult to map APN practice sites in terms of Medically Underserved Areas (MUAs). The broad county-wide designation of an MUA masks the diversity of underserved areas within the region -- best indicated by a zip code or census track with a county. The current data is an excellent start toward efforts to map the practice of APNs, and their provision of care to underserved areas of the State.

Decreased diversity: The data indicate the lack of cultural diversity within the APN workforce. Of particular concern is that diversity actually decreases in the younger cohort; a trend which is of great concern given the increased diversity of our state.

Specialty/Work Place Characteristics/Billing: The respondents reported on their nursing specialty, billing arrangements, and workplace setting. The survey participants were provided a choice among 26 job settings as well as the option to write in settings that were not listed. The majority of respondents practice in ambulatory settings; but many APNs indicated they split time between a hospital and outpatient setting. Approximately 35% of APNs indicated they practice in traditional primary care settings but other specialties were also represented; specialties that are increasing present in primary care, such as Psychiatric/Mental Health. In line with Illinois regulation, APNs maintain collaborative agreements but with a range of physician-collaborator relationships. Consistent with national data, most APNs are satisfied with their work; however, the degree of satisfaction varies based on the level of perceived hierarchy within that collaborative relationship. Forty percent of respondents bill exclusively under their National Provider Identifier; rising to 53% with the addition of APNs who bill a combination of NPI and physician /clinic billing.

<u>Summary:</u> Taken together, these data will be extremely valuable as health care planners project the human health care capital that will be needed in Illinois. These data will be of great use in estimating the current APN supply, their demographics, and practice specialties. The anticipated shortage of primary care providers is particularly acute in Illinois. Focused workforce planning is urgently needed to assure access to healthcare for Illinois residents.

IHAC Nursing Co-leads: IDFPR/Illinois Center for Nursing, IONL and ANA-Illinois.

¹ U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis. Highlights From the 2012 National Sample Survey of Nurse Practitioners. Rockville, Maryland: U.S. Department of Health and Human Services, 2014.

Demographics

The distribution of APN survey participants by selected age categories is presented in the first row of Figure 1. Age is derived from participant responses to date of birth with a 9% rate of non-response. Individuals in the 55 and above age group columns sum to 41.5% of total respondents. The sizeable portion of Illinois APNs in these advanced age categories serves as a useful context for other observations in this report. Age distribution is a common focus of numerous reports on the nursing workforce. A recent report by the Health Resources and Services Administration (*The U.S. Nursing Workforce: Trends in Supply and Education*, April 2013) discusses age-related concerns at length based on national data collected four to five years earlier than the survey data in this study.

Figure 1: Age and Diversity

Category	34 & Under	35-44	45-54	55-64	65 & Above
Age Frequency	253	399	515	769	213
White Female	81.4%	77.9%	83.3%	89.6%	86.9%
Not White	13.8%	12.0%	9.1%	6.1%	5.6%
Asian	4.7%	6.5%	3.9%	0.5%	1.4%
African American	4.0%	4.5%	4.9%	4.3%	2.4%
Latina	4.0%	4.3%	2.7%	1.4%	0.0%
Other	1.2%	1.0%	0.4%	1.3%	1.5%
Male	7.9%	9.3%	7.2%	4.2%	6.1%

Figure 1 also explores diversity of the Illinois APN workforce. White females constitute a substantial majority although there are indications of modestly changing demographics observable across age categories. Asian, Latina and male respondent shares are highest in the 35-44 and 34 & under age categories.

Language proficiency beyond English is a related issue with potential implications for effective healthcare provision to diverse populations. Out of all APN survey respondents, 4.9% report that they speak Spanish and 4.5% report that they use Spanish in their current position. A sum of 2.5% report speaking any other language and only 1.2% use any other

language on the job. Polish, Italian and Tagalog are the only additional languages with non-trivial responses.

Years of experience, as an RN and separately as an APN, can be derived from responses to survey questions on initial licensure. Figures 2a and 2b present experience in categories of 0-6 years, 7-14 years, 15-23 years, 24-33 years and 34+ years. The distribution of experience is presented for each of the familiar age cohorts. Years as an RN are shown in Figure 2a while experience as an APN is presented in Figure 2b.

Survey respondents exhibit substantial RN experience with over 75% in the 15 years or more categories. APN years of experience is a very different story with only 36% in the three most experienced categories. This mismatch is, in part, a natural consequence of the sequence of qualification. However, the variety of ages at which individuals enter and advance in nursing is a contributing factor. Age is an imperfect predictor of nursing career choices and so age is imperfectly correlated with APN experience.

Figure 2a: RN Experience

Age by Groups	Age	bv	Gro	ups	
---------------	-----	----	-----	-----	--

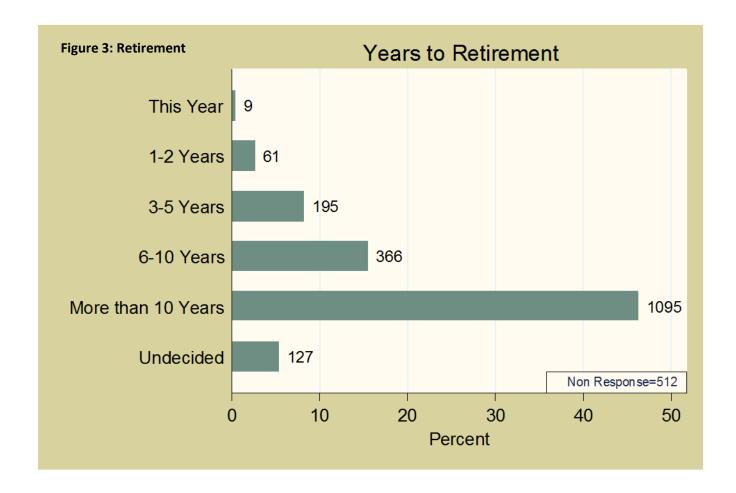
Experience by APN Groups	34 & Under	35-44	45-54	55-64	65 & Under	Total
0-6	228	196	160	116	9	709
7-14	6	151	170	239	39	605
15-23	1	30	146	243	75	495
24-33	0	0	17	108	46	171
34+	1	2	1	36	34	74
Total	236	379	494	742	203	2054

Figure 2a: APN Experience

Age by Groups

Experience by RN Groups	34 & Under	35-44	45-54	55-64	65 & Under	Total
0-6	49	17	8	1	0	75
7-14	186	157	25	23	2	393
15-23	0	204	162	53	7	426
24-33	1	1	297	195	12	506
34+	0	0	2	470	182	654
Total	236	379	494	742	203	2,054

The survey asks participants a pair of questions on retirement plans. The distribution across selected categories of years to retirement is presented in Figure 3. The horizontal bar for each category represents both the number of responses (listed to the right) and the share of total (indicated on the axis below). The largest category is composed of APNs reporting more than ten years before exit. This group of 1,095 represents 46.3% of all survey respondents. The sum of undecided (127) and non-responding individuals (512, listed in the lower right corner) outpaces other specific options and may imply substantial uncertainty with regard to retirement plans.



Human Capital

Skills and knowledge can be productive in a variety of contexts and education (elementary, secondary, undergraduate studies) often serves as an example of human capital that is "general" in nature. Alternatively, skills and knowledge can be "specific" with greatest value in a unique industry setting or specialized occupational role. Both types of human capital play important roles in the nursing workforce and in this section we explore educational attainment and area of medical specialty in the APN survey responses.

Advanced educational credentials are a distinguishing characteristic of the APN workforce. Over 79% of those responding to education completed indicate attainment of a Master's degree with an additional 17% attaining a Post Master's Certificate or Doctorate. Figure 4 presents these educational response frequencies by the familiar age categories.

Figure 3: Education

Age	bν	Groups	
, ,,,,,,	~,	aps	

Highest Degree Attained	34 & Under	35-44	45-54	55-64	65 & Under	Total
Doctorate	4	38	76	143	36	297
Post Master's Certificate	1	5	13	30	6	55
Master's	217	326	398	545	135	1,621
Baccalaureate	14	10	6	21	26	77
Total	236	379	493	739	203	2050

Specialized training and experience can enhance skills that are most valuable in a particular context. Information on individual employment in medical specialty areas is provided through the survey with detailed specialties allocated to four broad categories (Primary Care, Surgical, Subspecialties, and Other). A substantial number of write-in responses were codified with the assistance of IHAC Survey Group consultation. Response frequencies across 41 medical specialties are presented in Figure 5 ordered with the most frequent in the top rows.

Percent 2.91% 1.92% 0.23% %89.9 Frequency 114 20 33 27 Other(cardiovascular, trauma) Orthopedic Surgery **Urological Surgery** General Surgery 1.40% 1.22% 1.16% 1.11% 1.05% 2.44% 2.15% 2.09% 1.98% 0.70% 0.58% 0.58% 0.52% 0.35% 0.23% 0.23% 0.17% 33.61% 4.48% 3.55% 2.85% 0.58% 1.86%49 37 37 38 34 22 22 21 20 118 118 12 9 9 9 6 3 578 7 32 61 Pediatric (developmental, surgery, critical care, Child Abuse Medical Examiner) Other Specialty-Allergy & Immunology Other Specialty-College Professor/Educa Other Specialty-ENT School Health(includes College Health) Other(Incidues Non Clincial Specialty) Health Promotion/Health Education Palliative Care/Pain Management Psychiatry/Mental Health Occupational Health Hospitalist Interventional Radiolog Urgent Care Emergency Care Intensive Care Long Term Care Wound/Ostomy Rehabilitation Retail Clinic Anesthesia Sleep 11.34% 5.18% 1.05% 0.76% 0.64% 24.31% 2.44% 1.45% 1.16% 0.29% 418 195 20 13 11 83 42 25 18 OB/GYN Women's Health Hematology/Oncology Pulmonary/Respiratory Infectious Disease Renal/Nephrology Gastroenterology Rheumatology Endocrinology Cardiology 22.92% 35.43% 6.11% 3.72% 2.68% 394 105 8 46 609 Internal Medicine General Pediatrics Family Practice Geriatrics Total

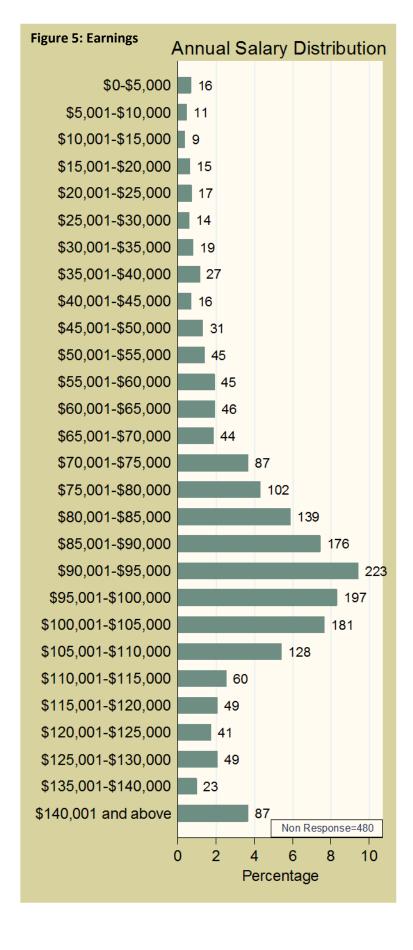
Fig ur e 4: Pri nc ip al Sp

Family Practice hosts the largest concentration of APNs with 22.9% of all respondents followed by OB/GYN Women's Health at 11.3%. Other specialties with at least 3.5% include Internal Medicine, Cardiology, Psychiatry/Mental Health, General Pediatrics, and Palliative Care. Additional specialties exceeding 2.0% are Other Surgery, Anesthesia, Geriatrics, Hematology/Oncology, Urgent Care, Emergency Care, and Intensive Care. Survey participants listing these top 14 specialties make up nearly 75% of all APN respondents.

Aggregate frequencies for each of the broad categories are shown at the bottom of the table. About 35% of respondents identify primary specializations categorized in the survey as Primary Care.

Annual salary and typical weekly hours for primary position are provided by nearly 80% of survey respondents. The salary distribution for all APNs is provided in Figure 6. Several of the observations on the lower end are associated with employment at less than full-time hours. The resulting median for APNs with full time hours is in the \$90,000 to \$95,000 interval.

Earnings differences among APNs are associated with primary medical specialties as well as a number of other contributing factors (including education, experience, and work setting). Detailed specialties with the highest median full time earnings include Anesthesia, Dermatology, Allergy and Immunology, Neonatal, and Urological Surgery. Within Primary Care, median earnings in Geriatrics and Pediatrics appear to outpace those in Internal Medicine and Family Practice.



Workplace Characteristics

The APN workforce survey offers a valuable range of questions about the workplace environment. These include primary job setting, services provided, degree of professional collaboration, and job satisfaction.

Primary job setting is provided with numerous specific settings grouped into selected broad categories (Ambulatory, Hospital, Elder Care, Public Health, and Other). Response frequencies across 26 primary job settings are presented in Figure 7 ordered with the most frequent in the top rows.

The most frequent response is Private Physician with 25.6% of all APN respondents followed by Hospital Inpatient at 19.0% and Hospital Outpatient at 10.1%. Other settings with at least 3.5% include Retail Based, Academic, Federal Clinic, School/College, and Private Office. Additional settings exceeding 2.0% are Community Health, General Long Term Elder Care, and Hospital Emergency. APNs listing these top 11 settings as primary make up nearly 88% of all survey respondents.

Primary job setting is associated with earnings differences among APNs. Specific settings with the highest median full time earnings include Surgery, Hospital Administration, and Hospital Emergency. Job settings with the lowest earnings appear to be Public Community Health, Federal Clinic, Hospice, and Academic.

Frequency Percent %9.0 0.3% 0.1% 9.9% 2.9% 2.6% 1.8% 0.8% 0.8% 56 49 16 15 188 34 11 9 General Long Term/ Elder Care ong Term/Elder Care Hospice Public/ Community Health Elder Care/ Public Health Elder Care Home Care Health Department Correctional Facility Mental Health Rural Health Frequency Percent 12.7% 6.4% 0.9% 0.5% 3.8% 1.3% 242 123 73 18 74 Health Maintenance School/ College **Mobile Clinic** Occupational Academic Other 19.0% Frequency Percent 34.0% 2.5% 0.8% 0.5% 364 650 47 21 15 6 Administration Inpatient Outpatient Emergency Educator Hospital Federal 43.5% Frequency Percent 25.6% %9.9 1.5% 3.6% 1.1%%9.0 4.6% 490 126 833 88 89 29 21 11 Nurse Managed Clinic Private Physician Private Office Federal Clinic Retail Based **Urgent Care Ambulatory** Surgery Total

Fig ur e 7: Pri nc ip al Se

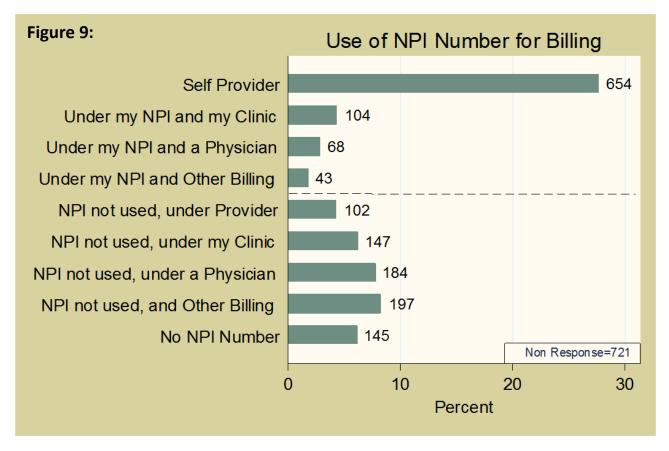
Figure 8 documents APN survey information on services provided to patients. Responses are ordered by frequency in the "most patients" column. The top three responses are "counsel and educate patients and families", "conduct physical exams and obtain medical histories", and "prescribe drugs for acute and chronic illnesses".

Figure 8: Services for Patients

Services Provided	Most Patients	Some Patients	Few Patients	No Patients
Counsel and educate patients and families	83.6	13.3	2.2	1.0
Conduct physical examinations and obtain medical histories	81.0	12.3	3.5	3.3
Prescribe drugs for acute and chronic illnesses	72.8	14.5	5.0	7.7
Order, perform, and interpret lab tests, x-rays, EKGs, and other diag	68.7	19.2	6.7	5.3
Diagnose, treat, and manage acute illnesses	64.9	21.2	8.1	5.8
Diagnose, treat, and manage chronic illness	52.7	23.9	15.4	8.1
Provide preventative care, including screening and immunizations	51.4	18.4	13.2	17.1
Provide care coordination	50.4	28.2	14.4	7.0
Make referrals	40.2	41.9	13.5	4.4
Participate in practice improvement activities	32.4	32.3	23.7	11.7
Perform procedures	19.4	27.7	27.7	25.2
Provide psychotherapy	5.6	10.8	14.1	69.5
Deliver anesthesia	4.5	2.2	4.8	88.6

Bill arrangement and the use of a National Provider Identifier (NPI) number are derived from three questions on the survey. The response rate to the first question, "Do you have a NPI number?", was 73.5%. The second question asked, "Do you, or whoever handles accounting for you, bill under your NPI number?" and had a nearly perfect response rate conditional on answering the first question. Placed elsewhere in the survey is a third question, "Which of the following best describes your billing arrangements for your principal APN position?" Options include "Bill under a physician's number", "Bill under my clinic/facility number", "Bill under my provider number", "No billing, cash only", and "No, billing, grant supported/free clinic". For clarity of presentation the three questions were combined into one display.

Billing responses are presented in Figure 9. The most frequent response asserts that the APN bills solely using their individual NPI. About 40% of respondents elect this option. The other three choices shown above the dashed line imply multiple billing practices by APNs including use of their individual NPI. The four choices below the dashed line indicate those APNs who do not have an NPI or have it but do not use it for billing.



Another workplace characteristic addressed in survey responses is the nature of professional collaboration with physicians. APN responses on two related questions are provided by Figure 10. The first question is ordered by APN response frequency with the most collaborative description (equal colleagues / no hierarchy) showing up in the middle of the pack at 9.6%. A somewhat less collaborative description (medical director oversees / accountable) garners more responses at 12.0%. The least collaborative description is jointly defined with three options (physician cosigns, physician sees and signs off, hierarchical / supervisory) that are selected by a combined 18.1%. The second question offers additional information on the extent of physician presence on-site.

Figure 10a: Physician Collaboration

Physician Collaboration	Frequency	Percentage
Collaborate with a physician on site	945	40.0%
Collaborate with a physician at another site	373	15.8%
S/he is the medical director who oversees all of our practice and I am accountable to the medical		
director, as are all other providers	284	12.0%
Equal colleagues/no hierarchy	227	9.6%
Physician cosigns orders and/or progress notes	197	8.3%
Physician sees and signs off on the patients I see	120	5.1%
Hierarchical/supervisory in which I must accept his/her clinical decision about the patients I see	112	4.7%
No physician in my practice	51	2.2%
Multiple Answers	579	24.5%

Figure 10b: Physician Presence

Physician presence on site to dicuss patients	Frequency	Percent
76%-100% of the time	736	47.4%
51%-75% of the time	172	11.1%
26%-50% of the time	131	8.4%
1%-25% of the time	251	16.2%
0% of the time	262	16.9%

Job Satisfaction

Workforce recruitment, engagement, development and retention can be influenced by a wide range of factors. These include objectively measurable elements such as salary or time assignment. Personal assessments of relatively subjective elements such as level of autonomy or respect from colleagues may influence workforce outcomes as well. The APN Workforce Survey includes several questions about job satisfaction that include reference to an appropriately wide range of issues.

Table 11 presents job satisfaction measures. Column headings 1 through 5 refer to alternative descriptors from very satisfied (1) to very dissatisfied (5). On overall job satisfaction, APN survey participants give 31.9% very satisfied and 55.6% satisfied. Results on specific elements suggest relatively more satisfaction with patient interactions and less satisfaction on administrative support. Items scoring particularly poorly are "input into organizational policies" and paperwork.

Figure 11:

Aspects of Principal Position	1	2	3	4	N/A
Overall Satisfaction with Principal Position	31.9	55.6	11.1	1.4	N/A

Aspects of Principal Position	1	2	3	4	N/A
Proportion of time in patient care	41.1	45.7	7.3	1.9	3.9
Patient mix	33.8	54.5	5.1	0.8	10.9
Patient load	29.4	51.9	10.1	2.2	6.5
Number of hours worked, including overtime	28.0	51.9	15.3	4.2	0.6
Salary/benefits	20.8	51.4	21.9	5.3	0.5
Amount of administrative support	20.8	42.9	24.9	10.1	1.4
Amount of paperwork required	13.3	44.6	28.9	11.1	2.2

Aspects of Principal Position	1	2	3	4	N/A
Level of autonomy	44.6	40.3	10.8	3.6	0.8
Respect from other colleagues	41.7	48.7	7.0	2.1	0.5
Sense of value for what you do	40.9	42.2	12.8	3.8	0.3
Respect from physician colleagues	34.9	45.6	13.1	3.9	2.5
Opportunities for professional development	23.6	49.5	19.8	5.8	1.2
Input into organizational/practice policies	19.8	43.1	23.8	9.9	3.3

In our discussion above it was clear that Advanced Practice Nurses in Illinois experience work environments with a range of "physician collaborative relationship" conditions. Using that variation across individuals as a filter we are able to interact collaborative conditions with job satisfaction responses. The results of this exercise are displayed in Figure 12. APNs in the most collaborative environments express the highest levels of overall job satisfaction. This result is robust across objective job descriptions including time in patient care, patient mix, hours worked, and administrative support. The finding is amplified for subjective job descriptions including autonomy, respect from colleagues, sense of value, and opportunities for professional development.

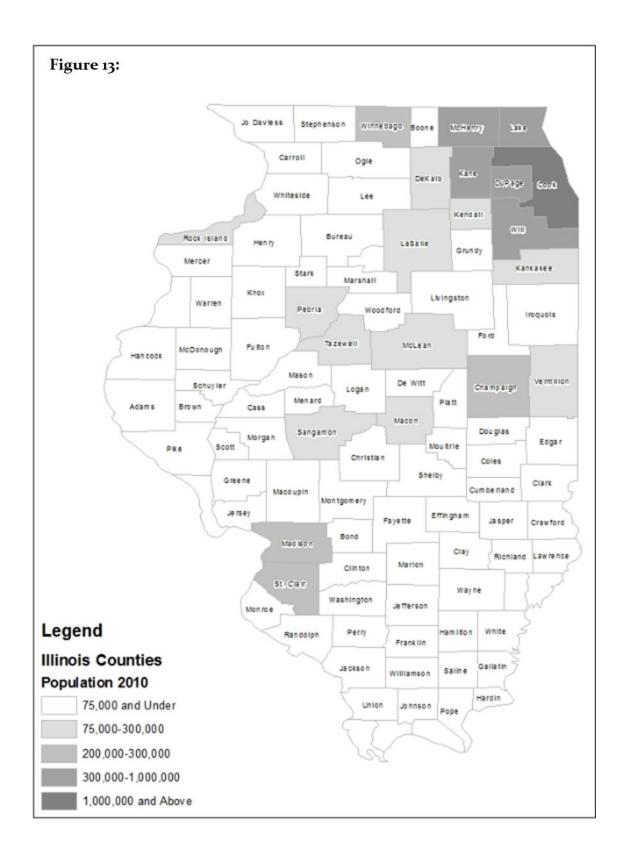
Figure 12:	Low/ Equal Hierarchy					Medium/ Accountable					High/ Subordinate					
Aspects of Principal Position	1	2	3	4	N/A	1	2	3	4	N/A	1	2	3	4	N/A	
Overall Satisfaction with Principal Position	48.5	44.5	7.1	0.0	N/A	33.5	51.8	14.1	0.7	N/A	30.4	50.5	17.2	1.9	N/A	
Aspects of Principal Position	1	2	3	4	N/A	1	2	3	4	N/A	1	2	3	4	N/A	
Proportion of time in patient care	57.7	39.7	1.8	0.4	0.4	44.4	46.8	6.3	1.8	0.7	43.0	44.8	8.8	2.8	0.6	
Patient mix	49.3	45.8	2.6	0.4	1.8	38.7	54.6	4.6	0.7	1.4	35.1	56.1	6.0	0.9	1.9	
Patient load	40.5	51.1	4.9	2.2	1.3	33.8	51.8	9.9	2.8	1.8	32.0	48.3	15.7	2.5	1.6	
Number of hours worked, including overtime	40.1	42.3	14.1	3.5	0.0	29.9	49.3	18.3	2.5	0.0	24.5	50.8	18.5	6.3	0.0	
Salary/benefits	26.0	49.3	19.8	4.4	0.4	24.3	50.7	18.7	5.6	0.7	17.9	49.5	26.3	6.3	0.0	
Amount of administrative support	30.0	37.4	21.6	11.0	0.0	21.1	46.1	24.7	7.8	0.4	19.1	42.0	24.5	14.1	0.3	
Amount of paperwork required	19.8	42.3	28.2	8.8	0.9	15.5	41.9	29.9	11.6	1.1	14.7	45.1	28.5	11.0	0.6	
Aspects of Principal Position	1	2	3	4	N/A	1	2	3	4	N/A	1	2	3	4	N/A	
Level of autonomy	65.6	27.3	4.4	2.6	0.0	48.9	35.9	11.3	3.9	0.0	29.8	43.6	18.5	8.2	0.0	
Respect from other colleagues	55.1	41.0	2.6	0.9	0.4	41.9	49.3	7.0	1.8	0.0	35.1	52.7	10.0	2.2	0.0	
Sense of value for what you do	57.3	33.5	7.5	1.8	0.0	43.0	40.5	12.3	4.2	0.0	35.1	41.7	18.5	4.7	0.0	
Respect from physician colleagues	57.7	35.7	4.9	1.3	0.4	33.8	48.9	10.6	5.6	1.1	30.7	45.1	16.3	6.9	0.9	
Opportunities for professional development	36.6	43.6	14.5	4.4	0.9	25.4	50.4	16.9	6.7	0.7	20.7	47.7	22.6	8.5	0.6	
Input into organizational/practice policies	26.9	45.4	17.6	7.9	2.2	16.6	45.1	26.4	10.6	1.4	13.2	47.7	24.5	12.5	2.2	

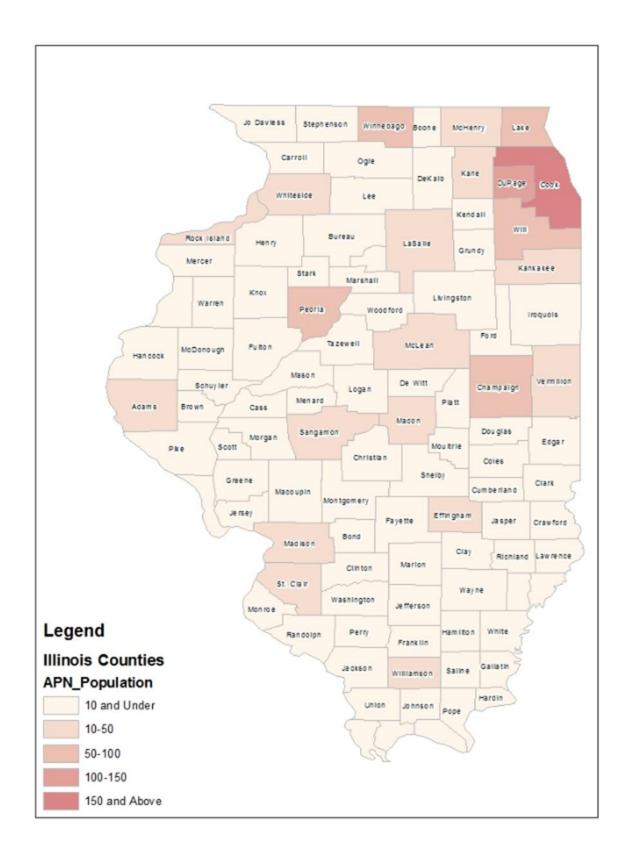
Geography

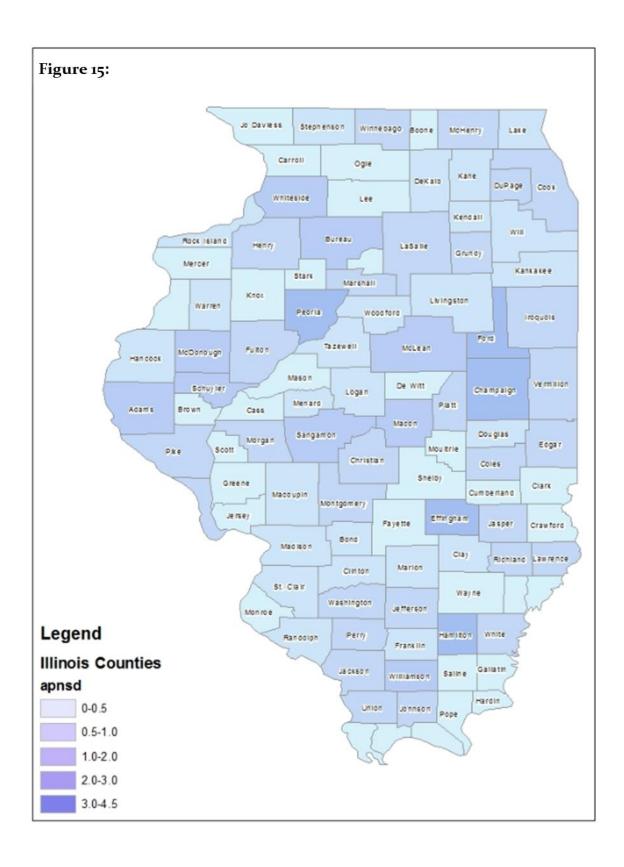
Survey participants are asked to provide "the zip code(s) where you practice in your principal position." This request, with a nearly 88% response rate, serves as the basis for geographic information presented in this section. We translate workplace zip codes into county-based views of the APN workforce. Respondents entering two or three zip codes are allocated proportionately across the corresponding counties. There are 102 counties in Illinois.

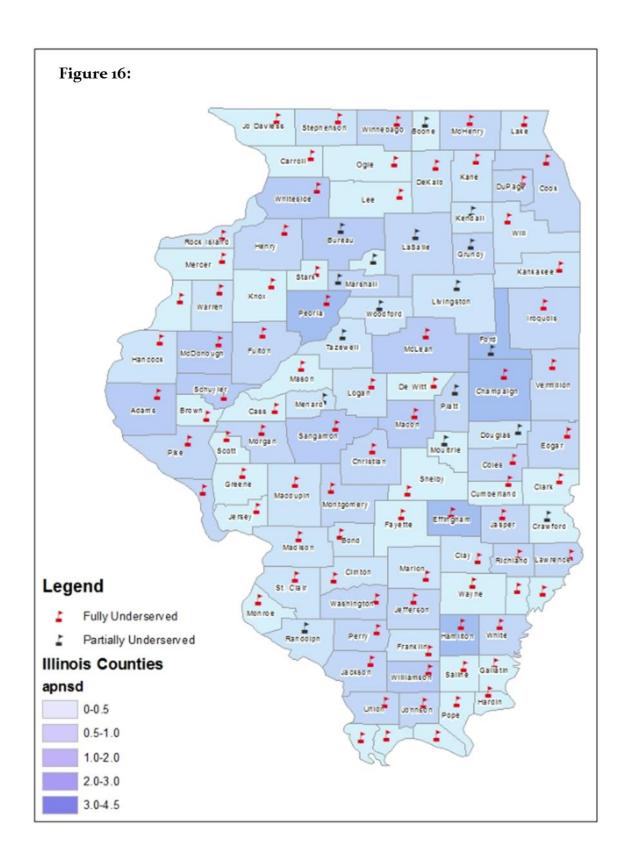
Figure 13 displays population across Illinois counties and Figure 14 presents APN survey respondents across Illinois counties. Given the geography of population density in Illinois it is neither surprising nor particularly informative to know that APNs are generally clustered where people are generally clustered. A more relevant measure would display APN workforce density as a ratio to population.

Figure 15 presents such a measure of APN density (apnsd) in terms of APN survey respondents per 10,000 population. By this measure at the county level some of the highest densities around the center of the state as opposed to the population-heavy northeast corner. Figure 16 adds indicators for county-level designations as medically-underserved areas.









Appendix A

- 1. Do you have a current certification, and/or licensure, from a State Board of Nursing to practice as an Advanced Practice Nurse (APN)?
- 2. In which state(s) or U.S. territories do you currently have certification/licensure/recognition to practice as an APN?
- 3. Which educational program(s) did you complete for your APN preparation?
- 4. In what year did you complete your initial APN education program?
- 5. Please indicate your APN Specialty for your primary position -- where you work the most hours and are compensated monetarily
- 6. In which area(s) have you ever received certification from a national certifying organization for APNs?
- 7. If you are not working as an APN, what are the reasons?
- 8. Do you volunteer as an APN? (i.e. work for free in a clinic, teach for free, free school physicals, etc.)
- 9. How many total hours per month do you volunteer as an APN?
- 10. Do you work for pay in nursing, as a Registered Nurse (RN) or as an APN?
- 11. For this survey, your principal position refers to the RN or APN position in which you work the most hours per week and are compensated monetarily. Do not include volunteer positions or adjunct faculty status. Which is your principal position?
- 12. In what type of setting do you work in your principal position?
- 13. What is the ZIP code(s) where you practice in your principal position?
- 14. In a typical week, how many hours do you work in your principal position?
- 15. Please estimate your 2013 pre-tax annual earnings from your principal position. Include overtime, on-call earnings, and bonuses.
- 16. Do you have a National Provider Identifier (NPI) number?
- 17. Do you, or whoever handles accounting for you, bill under your NPI number?
- 18. How satisfied are you with each of the following aspects of your principal position?
- 19. What is your overall level of satisfaction with your principal position?
- 20. Do you plan to leave your principal position?
- 21. Approximately when do you plan to retire from nursing and APN work?
- 22. Aside from your principal position, are you working for compensation in any other nursing (RN or APN) positions?
- 23. For this survey, your secondary position refers to the RN or APN position in which you work the second most hours per week and are compensated monetarily. Do not include volunteer positions or adjunct faculty status. Which is your secondary position?
- 24. In what type of setting do you work in your secondary position?
- 25. What is the ZIP code(s) where you practice in your secondary position?
- 26. In a typical week, how many hours do you work in your secondary position?
- 27. Please estimate your 2013 pre-tax annual earnings from your secondary position. Include overtime, on-call earnings, and bonuses.
- 28. Do you work for pay as an APN?
- 29. Functioning in your principal APN position, check the one term below that best describes the focus of your practice/facility. Choose from Primary Care, Subspecialties, Surgical Specialties, Other Specialties or check "Not working in a clinical specialty".

- 30. In your principal APN position, do you have the title of "Hospitalist?"
- 31. Functioning in your principal APN position, what percentage of your time is spent in each of the following roles?
- 32. Functioning in your principal APN position, do you provide direct patient care?
- 33. Regarding your principal APN position, for how many patients do you provide the following services?
- 34. Which of the following best describes your billing arrangements for your principal APN position?
- 35. How often is a physician present on site to discuss patient problems as they occur in your principal APN position?
- 36. What type of professional relationship do you have with the physician(s) in your principal APN position?
- 37. Do you pay your collaborating MD a fee?
- 38. If you do pay your collaborating MD a fee, how would you define the fee schedule?
- 39. To what extent would you agree or disagree with the following: In my principal APN position. I am allowed to practice to the fullest extent of my state's legal scope of practice.
- 40. To what extent would you agree or disagree with the following: In my principal APN position, my APN skills are being fully utilized.
- 41. How are you paid in your principal APN position?
- 42. Considering all of your APN positions, how many patients do you see in a typical week?
- 43. Considering all of your APN positions, do you have a panel of patients you manage and for whom you are the primary provider?
- 44. If you have a panel, how many patients are on your panel?
- 45. Do you take evening or weekend call for any of your APN positions?
- 46. Are you compensated for taking evening or weekend call for any of your APN positions?
- 47. Do you have hospital admitting privileges?
- 48. Are you covered by malpractice insurance?
- 49. Who pays for your malpractice insurance?
- 50. Do you have prescriptive authority?
- 51. Why don't you have prescriptive authority?
- 52. Do you currently have a personal drug enforcement administration (DEA) number?
- 53. Do you have a controlled substance license in Illinois?
- 54. Regarding patients for whom you provide care, who pays the majority of the cost?
- 55. Do you and/or your practice accept Medicaid?
- 56. Are you proficient in a language other than English?
- 57. Do you utilize this language in your current position?
- 58. Please list all languages in which you are proficient.
- 59. What is your gender?
- 60. What is your year of birth?
- 61. Are you of Latino or Hispanic ethnicity?
- 62. Which one or more of the following would you use to describe your race?
- 63. Which of the following best describes your current relationship status?
- 64. Please check all educational degree(s) you have earned.
- 65. In what year did you obtain your initial U.S. licensure as an RN?

66. In what year did you obtain your initial U.S. licensure as an APN?

67. Is your APN license lapsed or inactive?

68. What is your home address ZIP code?

69. Please add any comments or concerns about your APN position here:

¹U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis. Highlights From the 2012 National Sample Survey of Nurse Practitioners. Rockville, Maryland: U.S. Department of Health and Human Services, 2014.